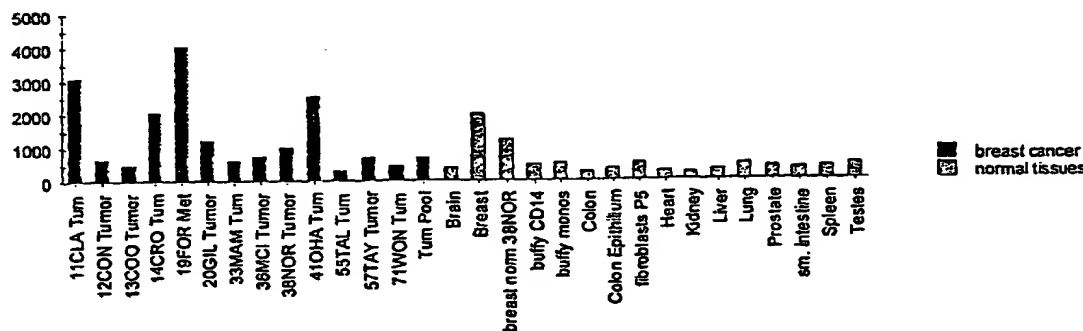


(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
21 September 2000 (21.09.2000)

PCT

(10) International Publication Number
WO 00/55629 A3

- (51) International Patent Classification⁷: **G01N 33/574, 33/50**
- (21) International Application Number: **PCT/US00/06952**
- (22) International Filing Date: **15 March 2000 (15.03.2000)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
- | | | |
|---------------|-------------------------------|----|
| 09/268,865 | 15 March 1999 (15.03.1999) | US |
| 09/439,878 | 12 November 1999 (12.11.1999) | US |
| 09/440,370 | 12 November 1999 (12.11.1999) | US |
| 09/440,493 | 15 November 1999 (15.11.1999) | US |
| 09/440,676 | 16 November 1999 (16.11.1999) | US |
| 09/440,677 | 16 November 1999 (16.11.1999) | US |
| 09/450,810 | 29 November 1999 (29.11.1999) | US |
| 09/453,137 | 2 December 1999 (02.12.1999) | US |
| Not furnished | 8 March 2000 (08.03.2000) | US |
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- (75) Inventors/Applicants (for US only): **MACK, David** [US/US]; 2076 Monterey Avenue, Menlo Park, CA 94025 (US). **GISH, Kurt, C.** [US/US]; 4302 23rd Street, San Francisco, CA 94114 (US).
- (54) Title: **METHODS OF DIAGNOSING AND TREATING BREAST CANCER**
- (81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
- With international search report.
 - Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.
- (88) Date of publication of the international search report:
22 March 2001
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(57) Abstract: Described herein are methods that can be used for diagnosis and prognosis of breast cancer. Also described herein are methods that can be used to screen candidate bioactive agents for the ability to modulate breast cancer. Additionally, methods and molecular targets (genes and their products) for therapeutic intervention in breast and other cancers are described. The methods involve the use of proteins like BCH1.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/06952

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N33/574 G01N33/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, STRAND, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 18945 A (ABBOTT LAB) 7 May 1998 (1998-05-07) claims 17,20; examples 3,19 page 49, line 1 - line 8 page 33, line 3 -page 38, line 2 ---	1-32, 35-37
A	WO 98 34118 A (UNIV YALE) 6 August 1998 (1998-08-06) claims 1,29 ---	1-37
A	US 5 514 554 A (BACUS SARAH S) 7 May 1996 (1996-05-07) claim 1 ---	1-37
P,X	WO 99 23230 A (ABBOTT LAB) 14 May 1999 (1999-05-14) abstract ---	9
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *8* document member of the same patent family

Date of the actual completion of the international search

28 November 2000

Date of mailing of the international search report

- 5. 12. 00

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INTERNATIONAL SEARCH REPORT

Application No

PCT/US 00/06952

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 99 33869 A (CORIXA CORP) 8 July 1999 (1999-07-08) abstract ----	9
P,X	WO 00 08210 A (RECIPON HERVE ; DIADEXUS LLC (US); SUN YONGMING (US); CAFFERKEY ROB) 17 February 2000 (2000-02-17) the whole document ----	9
P,X	WO 99 25877 A (ABBOTT LAB) 27 May 1999 (1999-05-27) page 32, line 32 -page 36, line 9 -----	1-3,6,7, 15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/06952

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
1-3,6,7,15 (partially, in so far as they relate to inventions 1 and 3),
4,5,8-14,16-37 (fully)
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 6,7 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Although claims 28,31-34 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.1

Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body and/or method for treatment of the human or animal body by therapy

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-3,6,7,15 (partially) 4,5,8-14,16-37 (fully)
Method of screening drug candidates involving BCH1
2. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCA2
3. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCJ7
4. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCN1
5. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCN5
6. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BC02
7. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCQ5
8. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCR2
9. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCX2
10. Claims: 1-3,6,7,15 (partially)
Method of screening drug candidates involving BCY3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/06952

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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